

## REMARKS

The above amendments and these remarks are responsive to the non-final Office action dated December 26, 2007, and are being filed under 37 C.F.R. § 1.111. Claims 5–9, 11, 13–15, 17–26, 28, and 31–40 are pending in the application. In the Office action, the Examiner

- Objected to applicants' previous amendments to the claims (filed October 15, 2007) under 35 U.S.C. § 132(a) for allegedly introducing new matter into the disclosure; and
- Rejected claims 5–9, 11, 13–15, 17–26, 28, and 31–40 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,743,912 to Lahille et al. ("Lahille") in view of U.S. Patent No. 5,653,765 to McTighe et al. ("McTighe").

Applicants traverse the objections and rejections, contending that the claim amendments filed on October 15, 2007, do not introduce new matter into the disclosure and that each claim is patentable over the cited references, taken alone or in combination. Nevertheless, to expedite the issuance of a patent, and to more particularly point out and distinctly claim aspects of the invention that applicants would like to patent now, applicants have amended claims 5, 21, 34, 35, and 39. However, applicants reserve the right to pursue any of the amended claims, in original or previously presented form, at a later time. Furthermore, applicants have presented arguments showing that all of the pending claims are patentable over the cited references, taken alone or in combination. Accordingly, applicants respectfully request reconsideration of the application in view of the amendments above and the remarks below, and prompt issuance of a Notice of Allowance covering all of the pending claims.

**I. Objections to Previous Claim Amendments**

The Examiner objected to applicants' previous response to Office action (dated October 15, 2007) for allegedly introducing new matter into the disclosure. In particular, the Examiner objected to the amendments introduced into claims 34 and 39, apparently, replacement of the phrase "slope radially outward" with the term "flare" in claim 34, and replacement of the phrase "slopes radially outward" with the term "flares" in claim 39. Applicants traverse the objections, contending that the specification and drawings, taken together, convey the term "flare(s)" with sufficient clarity to avoid a new matter rejection. Nevertheless, for the reasons set forth above, applicants have amended claims 34 and 39 to replace "flare" and "flares," respectively, with "slope radially outward" and "slopes radially outward," which restores claims 34 and 39 to their previously presented forms. The objections thus should be moot and withdrawn.

**II. Claim Rejections – 35 U.S.C. § 103**

The Examiner rejected each of the pending claims under Section 103 as being unpatentable over Lahille in view of McTighe. Applicants traverse the rejections, contending that it would not have been obvious to combine Lahille with McTighe to achieve the claimed invention of any of the pending claims. Nevertheless, for the reasons set forth above, applicants have amended claims 5, 21, 34, 35, and 39. Each of the pending claims is patentable for at least the reasons set forth below.

A. Claims 5–9, 11, 13–15, 17–20, and 34

Independent claim 5, as currently amended, reads as follows:

5. (Currently Amended) A method of compressing a bone, comprising:

selecting a bone screw including

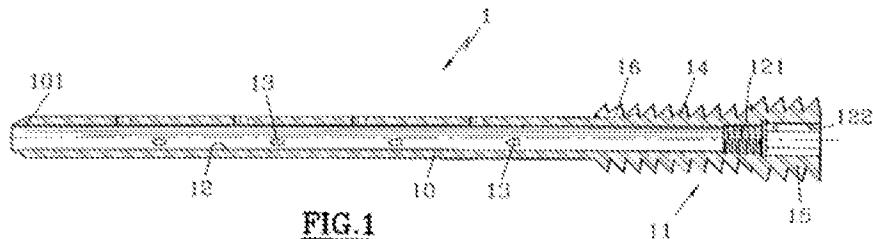
a shank including a thread disposed externally for threaded engagement with bone, the shank defining a long axis and a direction of advancement into bone, and

a head connected to the shank and defining a plurality of shoulders disposed at spaced positions generally along the head, each shoulder facing generally toward the direction of advancement and extending partially or completely around the head to define a respective plane disposed orthogonally to the long axis; and

installing the bone screw as a unit in a bone such that a portion of the bone near the head is engaged by two or more of the shoulders and is urged toward a portion of the bone near the shank.

In the Office action, claim 5 was rejected as being obvious over Lahille in view of McTighe. Applicants contend that claim 5 is not *prima facie* obvious over the cited references because the Examiner has not provided a suggestion or motivation to make the proposed combination. In particular, the proposed combination of Lahille and McTighe produces a hybrid implant that, if installed as a unit, would damage bone substantially during installation, thereby providing an implant that is less stably seated in bone and thus unsatisfactory for its intended purpose of holding together bone fragments. As a result, since the proposed modification of Lahille with McTighe “would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01(V)).

Lahille involves an implant for the upper femur to hold together bone fragments thereof. Figure 1 of the reference, which is reproduced here to facilitate review, illustrates a longitudinal sectional view of a body 1 of the implant. The body includes a leading tubular portion 10 and a trailing anchor portion 11 with external threads 14, 15 of distinct diameter.

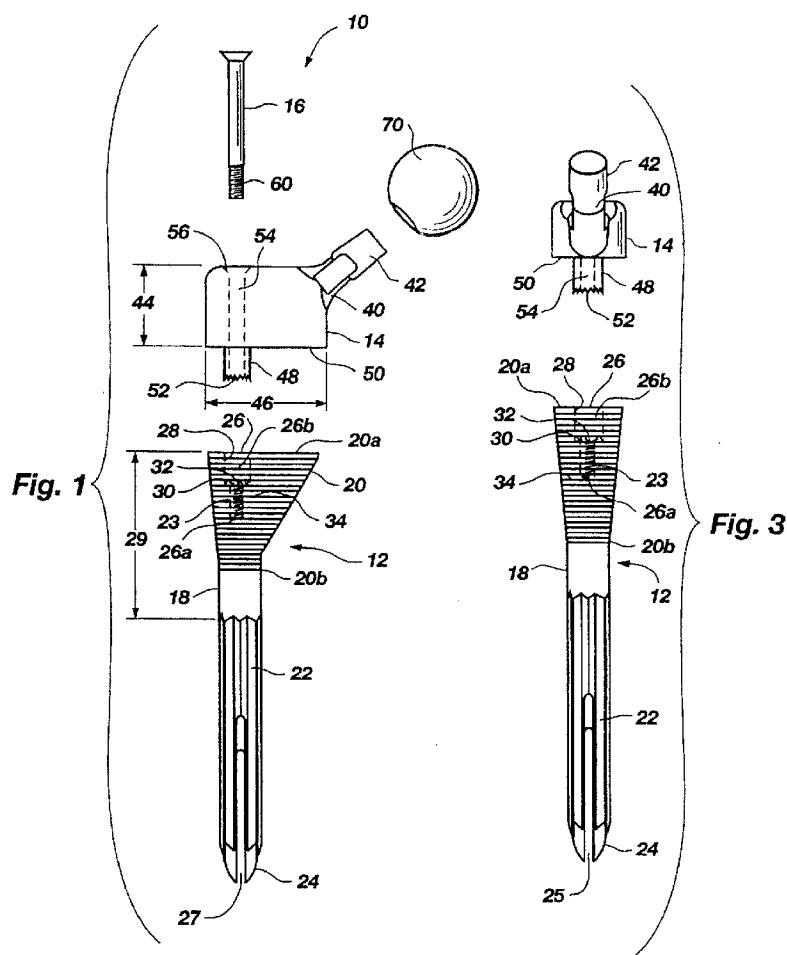


A trailing end of the body defines a second counterbore 122 “adapted to receive the six-flats end of a special key as shown in FIG. 4” (col. 6, lines 12 and 13). Furthermore, Lahille states:

[t]he key C1 [after placement into counterbore 122] is then used as a screwdriver in order to screw the implant body 1 into the bone until the first and second screwthreaded sections 14 and 15 of the implant body 1 are entirely housed within the respective counterbores CH1 and CH2 made in the bone. [col. 7, lines 43–47]

In other words, Lahille discloses that the implant is turned to advance trailing anchor portion 11 of the implant into bone.

McTighe involves a modular prosthesis for the hip. Figures 1 and 3, which are reproduced here to facilitate review, illustrate an embodiment of the prosthesis (10) in respective side and front views. Prosthesis 10 includes an elongate stem member 12 and a proximal shoulder 14 that is fastened to the stem member by a locking screw 16. The proximal shoulder provides a mounting piece for a hip ball 70.



Stem member 12 has a shaft 18 with a collar 20 disposed at a proximal end of the shaft. Collar 20 has “a generally ellipsoidal shape, and a series of generally elliptical terraces 34 defined the contour of an outer surface of the collar 20” (col. 4, lines 6–8). McTighe further discloses that “the terraces 34 are forced into engagement with the surrounding intra medullary bone 84 to block rotational movement of the stem 12.” (col. 4, lines 52–54) Given that terraces 34 are elliptical and are not centered on the long axis of the shaft, applicants contend that stem 12, and particularly collar 20, would be driven axially to advance the collar into bone.

The Examiner asserted that it would have been obvious to perform the method of claim 5 using a device created by substituting threaded anchor portion 11 of Lahille's implant with collar 20 of McTighe's stem. However, since claim 5 recites "a shank including a thread" and a head "defining a plurality of shoulders," the substitution proposed by the Examiner must replace only part of threaded anchor portion 11 with collar 20, in order to modify Lahille's implant to include both a thread (Lahille) and terraces 34 (McTighe).

It would not have been *prima facie* obvious to replace only part of anchor portion 11 of Lahille with collar 20 of McTighe because the resulting hybrid implant would be very difficult to install, would damage bone during installation (if it could be installed at all), would be less stably seated in bone, and thus would be unsatisfactory for its intended purpose. As described above, the threaded anchor portion of Lahille is turned for threaded advancement into bone, whereas the offset, elliptical collar of McTighe is driven axially into bone. Accordingly, the proposed combination of Lahille and McTighe would produce a hybrid implant that could not be installed in bone without damaging bone substantially, if it could be installed at all. In particular, turning the proposed hybrid implant to drive the remaining, threaded part of anchor portion 11 into bone would cause the offset, elliptical collar to form an oversized, circular cavity in bone as the collar rotates about the central axis of the implant while advancing into bone. Alternatively, or in addition, axially driving the proposed hybrid implant would cause the thread of anchor portion 11 to strip any complementary thread formed in bone. The resulting damage to bone would cause the hybrid implant to engage bone much less

effectively than the unmodified implant of Lahille and thus would have less rotational stability by adding terraces 34, not more as asserted by the Examiner.

In summary, the Examiner has not provided a *prima facie* case of obviousness to combine Lahille with McTighe to achieve the invention of claim 5 because there is no motivation to make the proposed combination. Claim 5 thus should be allowed. Claims 6–9, 11, 13–15, 17–20, and 34, which depend directly or indirectly from claim 5, also should be allowed for at least the same reasons as claim 5.

B. Claims 21–26, 28, 31–33, and 35–40

Independent claims 21, 28, and 35 each were rejected under Section 103 over a combination of Lahille and McTighe using the same motivation for *prima facie* obviousness as for claim 5. Accordingly, each of claims 21, 28, and 35 should be allowed for at least the same reasons as those presented above for claim 5. In addition, claims 22–26, 31–33, and 36–40, which depend directly or indirectly from independent claims 21, 28, and 35, also should be allowed for at least the same reasons as claims 21, 28, and 35.

**III. Conclusion**

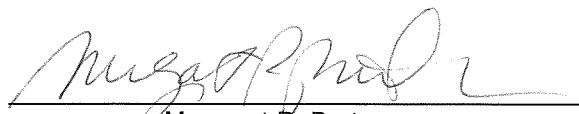
Applicants believe that each of the pending claims is patentable over the cited references. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowance covering all of the pending claims. If the Examiner has any

questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record, or his associate, Stan Hollenberg (Reg. No. 47,658), both at (503) 224-6655.

Respectfully submitted,

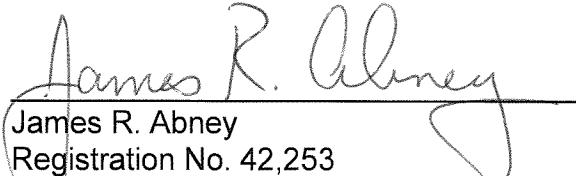
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